NVRO-xxx-07

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY

L. Preston Bryant, Jr.
Secretary of Natural Resources

Northern Virginia Regional Office
13901 Crown Court
Woodbridge, Virginia 22193
(703) 583-3800 Fax (703) 583-3801
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David K. Paylor
Director

Jeffery A. Steers
Regional Director

STATIONARY SOURCE PERMIT TO OPERATE

This permit supersedes your permit dated May 1, 1996.

In compliance with the Federal Clean Air Act and the Commonwealth of Virginia Regulations for the Control and Abatement of Air Pollution,

National Reconnaissance Office (NRO)
Boeing Service Company
14675 Lee Road
Chantilly, VA 20153
Registration No.: 71988

is authorized to modify and operate

five diesel engine generator sets

located at

14675 Lee Road, Chantilly, VA 20153

in accordance with the Conditions of this permit.

Approved on DRAFT.

Jeffery A. Steers
Regional Director

Permit consists of 11 pages.
Permit Conditions 1 to 23.

INTRODUCTION

This permit approval is based on the permit application dated April 17, 2006, and the application dated October 26, 1995, including amendments dated March 13, 1996. Any changes in the permit application specifications or any existing facilities which alter the impact of the facility on air quality may require a permit. Failure to obtain such a permit prior to construction may result in enforcement action.

Words or terms used in this permit shall have meanings as provided in 9 VAC 5-10-20 and 9 VAC 5-80-810 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution. The regulatory reference or authority for each condition is listed in parentheses ( ) after each condition.

Annual requirements to fulfill legal obligations to maintain current stationary source emissions data will necessitate a prompt response by the permittee to requests by the DEQ or the Board for information to include, as appropriate: process and production data; changes in control equipment; and operating schedules. Such requests for information from the DEQ will either be in writing or by personal contact.

The availability of information submitted to the DEQ or the Board will be governed by applicable provisions of the Freedom of Information Act, §§ 2.2-3700 through 2.2-3714 of the Code of Virginia, § 10.1-1314 (addressing information provided to the Board) of the Code of Virginia, and 9 VAC 5-170-60 of the State Air Pollution Control Board Regulations. Information provided to federal officials is subject to appropriate federal law and regulations governing confidentiality of such information.

PROCESS REQUIREMENTS

1. **Equipment List** - Equipment at this facility consists of the following:

Reference No.	Equipment Description	Rated Capacity	Federal Requirements
GS-1	Caterpillar 3516 Diesel Engine Driven Generator with SCR	2,308 hp 1,600 kW	N/A
GS-2	Caterpillar 3516 Diesel Engine Driven Generator with SCR	2,308 hp 1,600 kW	N/A
GS-3	Caterpillar 3516 Diesel Engine Driven Generator with SCR	2,308 hp 1,600 kW	N/A
GS-4	Caterpillar 3516 Diesel Engine Driven Generator with SCR	2,308 hp 1,600 kW	N/A
GS-5	Caterpillar 3516 Diesel Engine Driven Generator with SCR	2,308 hp 1,600 kW	N/A

Equipment Exempt from Permitting Requirements

Reference No.	Equipment Description	Rated Capacity	Exemption Citation
T-1	UST for diesel fuel	6,000 gallons	9 VAC 5-80-1320B.8
T-2	UST for diesel fuel	6,000 gallons	9 VAC 5-80-1320B.8
T-3	UST for diesel fuel	6,000 gallons	9 VAC 5-80-1320B.8
T-4	UST for diesel fuel	6,000 gallons	9 VAC 5-80-1320B.8
T-5	UST for diesel fuel	6,000 gallons	9 VAC 5-80-1320B.8
GAS	Gasoline Dispensing Facility with One 1,000 Gallon UST	2,000 gallons/month	9 VAC 5-80-1320B.8
PB	Spray Paint Booth	<100 gallons/year	9 VAC 5-80-1320C.1
HW	Seven Natural Gas Fired Hot Water Heaters	4.42 MMBtu/hr Total Heat Input	9 VAC 5-80-1320B.1
N/A	5 Gasoline Powered Emergency Generators	5.5 kW/Generator	9 VAC 5-80-1320B.2.A
N/A	Carpenter Shop with Baghouse	N/A	9 VAC 5-80-1320C.1

Specifications included in the permit under this Condition are for informational purposes only and do not form enforceable terms or conditions of the permit.
(9 VAC 80-850)

2. **Emission Controls**

   a. Oxides of Nitrogen (NO_X) emissions from the diesel engines shall be controlled by selective catalytic reduction (SCR). The SCR shall be provided with adequate access for inspection and shall be in operation when the diesel generators are operating.

   b. Sulfur Dioxide (SO_2) emissions from the diesel engines shall be controlled by the use of low sulfur diesel fuel with a sulfur content not to exceed 0.05% by weight.

   c. Carbon Monoxide (CO) emissions from the diesel engines shall be controlled by good combustion practices.

   d. Visible emissions from the diesel engines shall be controlled by good operating practices.
   (9 VAC 5-80-850)

3. **Emissions Testing** – The five diesel engine-generator sets shall be constructed so as to allow for emissions testing upon reasonable notice at any time, using appropriate methods. This includes constructing the facility/equipment such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing a stack or duct that is free from cyclonic flow. Sampling ports shall be provided when requested and safe sampling platforms and access shall be provided.
   (9 VAC 5-80-880 and 9 VAC 5-80-850)

4. **Monitoring Devices** – Each engine-generator set and/or SCR shall be equipped with a device to continuously monitor the urea injection rate, the temperature immediately downstream of the catalyst bed, and the load at which the engine-generator sets are being operated.

Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the engine-generators and SCR are operating.
(9 VAC 5-80-850 and 9 VAC 5-50-260)

5. **Monitoring Device Observation** – The following recording devices shall be in operation at any time that the associated monitoring device is in operation:

   a. The urea injection rate shall be monitored and recorded at a frequency of not less than once every fifteen (15) minutes during the operation of each engine-generator set.

   b. The temperature measurements downstream of the SCR shall be recorded at a frequency of not less than once every fifteen (15) minutes during the operation of each engine-generator set

   c. The engine-generator load shall be recorded at a frequency of not less than once every fifteen (15) minutes during the operation of each engine-generator set.

   (9 VAC 5-80-850)

OPERATING LIMITATIONS

6. **Fuel** - The approved fuel for the engines-generator sets is diesel fuel. A change in the fuel may require a permit to modify and operate.
   (9 VAC 5-80-850)

7. **Fuel -** The diesel fuel shall meet the specifications below:

   DIESEL FUEL OIL which meets the ASTM D975 specification for numbers 1 or 2 diesel fuel oil:
   Maximum sulfur content per shipment: 0.5% by weight

   After July 1, 2008:
   Maximum sulfur content per shipment: 0.05% by weight
   (9 VAC 5-80-850 and 9 VAC 5-50-2601)

8. **Fuel Certification** - The permittee shall obtain a certification from the fuel supplier with each shipment of diesel fuel oil. Each fuel supplier certification shall include the following:

   a. The name of the fuel supplier;

   b. The date on which the diesel fuel oil was received;

   c. The quantity of diesel fuel oil delivered in the shipment;

   d. A statement that the distillate oil complies with the American Society for Testing and Materials specifications for number 1 or 2 diesel fuel;

   e. The sulfur content of the diesel fuel oil;

f. The method used to determine the sulfur content of the diesel fuel oil;

Fuel sampling and analysis, independent of that used for certification, as may be periodically required or conducted by DEQ may be used to determine compliance with the fuel specifications stipulated in Condition 6. Exceedance of these specifications may be considered credible evidence of the exceedance of emission limits.
(9 VAC 5-80-850)

9. **Operating Hours** - The five diesel engine-generator sets shall not operate for a combined total of more than 12,350 hours per year, calculated monthly as the sum of each consecutive twelve-month period. Compliance for the consecutive twelve-month period shall be demonstrated monthly by adding the total hours for the most recently completed calendar month to the individual monthly totals for the preceding eleven months.
(9 VAC 5-80-850)

EMISSION LIMITS

10. **Facility Wide Emission Limits** - Total combined emissions from the five diesel engine-generator sets shall not exceed the limits specified below:

Nitrogen Oxides (as NO_2)	49.4 tons/yr
Volatile Organic Compounds (VOC)	5.6 tons/yr
Carbon Monoxide (CO)	53.7 tons/yr
Particulate Matter (PM-10)	8.1 tons/yr
Sulfur Dioxides (as SO_2)	57.7 tons/yr

After July 1, 2008:

Sulfur Dioxides (as SO_2):	5.8 tons/yr

Compliance with these annual limits shall be calculated monthly by adding the total emissions for the most recently completed calendar month to the total for the preceding eleven months with the monthly emissions determined as follows:

Emission relations between the urea injection, exit NO_x emission, and engine-generator output may be used to develop alternate NOx emission rates should the permittee so choose. The VOC emission rates, as determined at the various loads during testing, may be used to develop alternate emission rate relationships should the permittee so choose. If the alternate emission rates are used, the emissions must then be calculated in the following way:

a. NOx Emissions (tons/month) =

(Total hours of operation of the engine-generator sets for the current month at the low-load condition) x (lbs NO_x /hr as determined at low-load during the initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 60% load condition) x (lbs NO_x /hr as determined at 60% load during the

initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 80% load condition) x (lbs NO_x /hr as determined at 80% load during the initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 100% load condition) x (lbs NO_x /hr as determined at 100% load during the initial emission compliance testing)

b. VOC Emissions (tons/month) =

(Total hours of operation of the engine-generator sets for the current month at the low-load condition) x (lbs VOC /hr as determined at low-load during the initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 60% load condition) x (lbs NO_x /hr as determined at 60% load during the initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 80% load condition) x (lbs VOC /hr as determined at 80% load during the initial emission compliance testing) + (total hours of operation of the engine-generator sets for the current month at the 100% load condition) x (lbs VOC /hr as determined at 100% load during the initial emission compliance testing)

c. PM-10, SO2, and CO Emissions (tons/month)
(Total hours of operation of the engine-generator sets for the month) x (hourly emissions as designated in Condition 11 for each pollutant)

(9 VAC 5-80-850 and 9 VAC 5-50-260)

11. **Short Term Emissions Limits** - Emissions from the operation of the each diesel engine-generator set shall not exceed the limits specified below:

PM-10	1.3 lbs/hr
Nitrogen Oxides (as NO_2)	8.0 lbs/hr
Carbon Monoxide	8.7 lbs/hr
Volatile Organic Compounds	0.9 lbs/hr
Sulfur Dioxides (as SO_2)	9.3 lbs/hr

After July 1, 2008:
Sulfur Dioxides (as SO_2): 0.9 lbs/hr
(9 VAC 5-80-850 and 9 VAC 5-50-260)

12. **Visible Emission Limit** - Visible emissions from the engine-generators shall not exceed five percent opacity except during one six-minute period in any one hour in which visible emissions shall not exceed ten percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A). This condition applies at all times except during startup, shutdown, and malfunction.

Visible emissions during startup, shutdown, and malfunction from the engine-generators shall not exceed ten percent opacity except during one six-minute period in any one hour in

which visible emissions shall not exceed twenty percent opacity as determined by the EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-80-850)

RECORDS

13. **On Site Records** - The permittee shall maintain records of emission data and operating parameters as necessary to demonstrate compliance with this permit. The content and format of such records shall be arranged with the Air Compliance Manager of the Northern Virginia Regional Office (NVRO) of the DEQ at the following address:

    Regional Air Compliance Manager
    Department of Environmental Quality
    Northern Virginia Regional Office
    13901 Crown Court
    Woodbridge, VA 22193

    These records shall include, but are not limited to:

    a. Monthly and annual hours of operation of the EDG engine-generator sets for each load condition (low-load, 75% and 100% load conditions). The annual hours of operation shall be determined monthly by adding the total for the most recently completed calendar month to the individual monthly totals for the preceding eleven months.

    b. Copies of the current relationships between the load and the NO_X emission rates.

    c. Monthly and annual emissions calculations for NO_X from the engine-generator sets using the calculation methods in Condition 10 to verify compliance with the ton/yr emissions limitations in Condition 10.

    d. SCR operating and controls such as urea injection rate for each SCR at each of the engine-generator operating loads, the temperature immediately downstream of the catalyst bed, and the load at which the engine-generator is being operated.

    e. Test reports and parameter data collected during the most recent compliance emission testing for the five engine-generators.

    f. All fuel supplier certifications.

    g. Scheduled and unscheduled maintenance.

    h. Operator training.

    These records shall be available for inspection by the DEQ and shall be current for the most recent five years.
    (9 VAC 5-80-850)

GENERAL CONDITIONS

14. **Certification of Documents**

A. The following documents submitted to the board shall be signed by a responsible official: (i) any emission statement, application, form, report, or compliance certification; (ii) any document required to be signed by any provision of the regulations of the board; or (iii) any other document containing emissions data or compliance information the owner wishes the board to consider in the administration of its air quality programs. A responsible official is defined as follows:

i. For a business entity, such as a corporation, association or cooperative, a responsible official is either:

a. The president, secretary, treasurer, or a vice president of the business entity in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the business entity; or

b. A duly authorized representative of such business entity if the representative is responsible for the overall operation of one or more manufacturing, production, or operating facilities applying for or subject to a permit and either (i) the facilities employ more than 250 persons or have gross annual sales or expenditures exceeding $25 million (in second quarter 1980 dollars) or (ii) the authority to sign documents has been assigned or delegated to such representative in accordance with procedures of the business entity.

ii. For a partnership or sole proprietorship, a responsible official is a general partner or the proprietor, respectively.

iii. For a municipality, state, federal, or other public agency, a responsible official is either a principal executive officer or ranking elected official. A principal executive officer of a federal agency includes the chief executive officer having responsibility for the overall operations of the principal geographic unit of the agency.

B. Any person signing a document under subsection A above shall make the following certification:

> *"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering and evaluating the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."*

C. Subsection b shall be interpreted to mean that the signer must have some form of direction or supervision over the persons gathering the data and preparing the document (the preparers), although the signer need not personally nor directly supervise these activities. The signer need not be in the same line of authority as the preparers, nor do the persons gathering the form need to be employees (e.g., outside contractors can be used). It is sufficient that the signer has authority to assure that the necessary actions are taken to prepare a complete and accurate document.

(9 VAC 5-20-230)

15. **Permit Suspension/Revocation** - This permit may be suspended or revoked if the permittee:

    a. Knowingly makes material misstatements in the permit application or any amendments to it;

    b. Fails to comply with the conditions of this permit;

    c. Fails to comply with any emission standards applicable to a permitted emissions unit;

    d. Causes emissions from the stationary source which result in violations of, or interfere with the attainment and maintenance of, any ambient air quality standard; or

    e. Fails to operate in conformance with any applicable control strategy, including any emission standards or emission limitations, in the State Implementation Plan in effect at the time an application for this permit is submitted.

    (9 VAC 5-80-1210 F)

16. **Right of Entry** - The permittee shall allow authorized local, state, and federal representatives, upon the presentation of credentials:

    a. To enter upon the permittee's premises on which the facility is located or in which any records are required to be kept under the terms and conditions of this permit;

    b. To have access to and copy at reasonable times any records required to be kept under the terms and conditions of this permit or the State Air Pollution Control Board Regulations;

    c. To inspect at reasonable times any facility, equipment, or process subject to the terms and conditions of this permit or the State Air Pollution Control Board Regulations; and

    d. To sample or test at reasonable times.

    For purposes of this condition, the time for inspection shall be deemed reasonable during regular business hours or whenever the facility is in operation. Nothing contained herein shall make an inspection time unreasonable during an emergency.

    (9 VAC 5-170-130 and 9 VAC 5-80-850)

17. **Maintenance/Operating Procedures** – At all times, including periods of start-up, shutdown, and malfunction, the permittee shall, to the extent practicable, maintain and operate the affected source, including associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing emissions.

    The permittee shall take the following measures in order to minimize the duration and frequency of excess emissions:

    a. Develop a maintenance schedule and maintain records of all scheduled and non-scheduled maintenance.

    b. Maintain an inventory of spare parts.

    c. Have available written operating procedures for equipment. These procedures shall be based on the manufacturer's recommendations, at a minimum.

    d. Train operators in the proper operation of all such equipment and familiarize the operators with the written operating procedures, prior to their first operation of such equipment. The permittee shall maintain records of the training provided including the names of trainees, the date of training and the nature of the training.

    Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.
    (9 VAC 5-50-20 E and 9 VAC 5-80-850)

18. **Record of Malfunctions** – The permittee shall maintain records of the occurrence and duration of any bypass, malfunction, shutdown or failure of the facility or its associated air pollution control equipment that results in excess emissions for more than one hour. Records shall include the date, time, duration, description (emission unit, pollutant affected, cause), corrective action, preventive measures taken and name of person generating the record.
    (9VAC 5-20-180 J and 9 VAC 5-80-850)

19. **Notification for Facility or Control Equipment Malfunction** - The permittee shall furnish notification to the Regional Air Compliance Manager, NVRO-FSO, at the address listed in Condition 13 of malfunctions of the affected facility or related air pollution control equipment that may cause excess emissions for more than one hour, by facsimile transmission, telephone or telegraph. Such notification shall be made as soon as practicable but no later than four daytime business hours after the malfunction is discovered. The permittee shall provide a written statement giving all pertinent facts, including the estimated duration of the breakdown, within two weeks of discovery of the malfunction. When the condition causing the failure or malfunction has been corrected and the equipment is again in operation, the permittee shall notify the Regional Air Compliance Manager, NVRO-FSO, at the address listed in Condition 13.
    (9 VAC 5-20-180 C and 9 VAC 5-80-850)

20. **Notification for Control Equipment Maintenance** - The permittee shall furnish notification to the Regional Air Compliance Manager, NVRO-FSO, at the address referenced in Condition 13, of the intention to shut down or bypass, or both, air pollution control equipment for necessary scheduled maintenance, which results in excess emissions for more than one hour, at least twenty-four hours prior to the shutdown. The notification shall include, but is not limited to, the following information:

    a. Identification of the air pollution control equipment to be taken out of service, as well as its location, and registration number;

    b. The expected length of time that the air pollution control equipment will be out of service;

    c. The nature and quantity of emissions of air pollutants likely to occur during the shutdown period;
    d. Measures that will be taken to minimize the length of the shutdown or to negate the effect of the outage.

    (9 VAC 5-20-180 B)

21. **Violation of Ambient Air Quality Standard** - The permittee shall, upon request of the DEQ, reduce the level of operation or shut down a facility, as necessary to avoid violating any primary ambient air quality standard and shall not return to normal operation until such time as the ambient air quality standard will not be violated.
    (9 VAC 5-20-180 I and 9 VAC 5-80-850)

22. **Change of Ownership** - In the case of a transfer of ownership of a stationary source, the new owner shall abide by any current permit issued to the previous owner. The new owner shall notify the Regional Air Compliance Manager, NVRO-FSO, at the address listed in Condition 13 of the change of ownership within thirty days of the transfer.
    (9 VAC 5-80-940)

23. **Permit Copy** - The permittee shall keep a copy of this permit on the premises of the facility to which it applies.
    (9 VAC 5-80-860D)